

### **Position Summary**

Under close progressing to limited supervision, this position functions as a professional chemist within the Chemistry Section. This position maintains a primary emphasis on: analysis of agriculturally related samples including hemp samples for THC levels, acute pesticide/fertilizer spills as well as soil and other matrices for pesticides and/or industrial chemical residues.

This employee is further responsible for the analysis of other section samples (e.g., feed, fertilizer, food, groundwater, etc.) as is necessary or assigned. Sample work assignments or areas of emphasis may be adjusted by management staff to meet the operational needs of the laboratory, including maximizing work efficiency during the year and/or cross-training of staff to support other sample areas.

All work is performed in accordance with agency and laboratory protocols, policies, quality assurance and safety standards (e.g., ensure waste/residue is disposed of appropriately; wearing safety glasses, etc.). This position will support Bureau Plans and Initiatives. This position may be required to give expert testimony in court.

### **Goals and Worker Activities**

**95%    GOAL A:       Responsible for the analysis of a variety of samples, with an emphasis on the Pesticide Analysis Unit; areas of work assignment are determined by management staff.**

- A1    Analyze industrial hemp samples for moisture and cannabinoid components as specified in the standard operating procedures.
- A2    Analyze soil and other matrices for acute pesticide/fertilizer spills as requested, following procedures outlined in the laboratory SOPs within the required timeframe.
- A3    Analyze environmental, food and other matrices for pesticide and/or industrial chemical residues.
- A4    Confirm any reported pesticide or toxin residues by recognized procedures including GC/MS, LC/MS, or Multiple Column Chromatography.
- A5    Assist in the maintenance of an inventory of chemicals, standards, and solutions used in the analysis of section samples.
- A6    Prepare reagents and standards as required.
- A7    Provide analytical testing support to other chemistry units as assigned.
- A8    Assist with instrument operation, maintenance, testing, etc.
- A9    As needed or as a back-up, assist in the preparation of laboratory samples (e.g. hemp or samples for pesticide residue testing) for analysis (e.g., compositing, grinding, blending, extracting, representative sampling, etc.), ensuring apparatus/equipment is ready for use or testing, any needed supplies are available, and appropriate disposition steps are followed.

**5%    GOAL B:    Maintenance of individual posture as a professional chemist.**

- B1    Maintain technical expertise by reviewing scientific articles and attending seminars and training sessions pertinent to the position.
- B2    Write comprehensive, legible reports of work performed and results obtained.
- B3    Appear as an expert witness in court to support litigation resulting from data obtained by sample analysis.

**KNOWLEDGES AND ABILITIES**

1. Working knowledge of the principles, practices and techniques of analytical chemistry.
2. Knowledge of the theory, operation, maintenance and calibration of a variety of laboratory instruments and techniques (e.g., Gas Chromatography, Liquid Chromatographs, UV Spectroscopy and Mass Spectrometry, etc.).
3. Knowledge of pesticide and industrial residue methodology.
4. Knowledge of the techniques used to confirm the presence of pesticide and/or industrial chemical residues.
5. Knowledge of the principles and operation of data processing microcomputers.
6. Ability to follow laboratory procedures, policy, and safety, etc. This includes the ability to maintain a safe and clean work area.
7. Knowledge of Quality Assurance Principles and how to analyze quality assurance samples.
8. Knowledge of laboratory safety practices.
9. Knowledge of statistical parameters, techniques, and procedures and their relationship to laboratory analyses.
10. Working knowledge of computer software (e.g., word processing, databases, spread sheets).
11. Ability to learn and effectively utilize a Laboratory Information Management System (LIMS).
12. Effective data management and record keeping skills; this includes electronic records.
13. Knowledge of team building techniques.
14. Effective time management and organizational skills
15. Effective verbal and written communication skills.

**Special Requirements:**

- 1) Ability to occasionally lift up to 50 lbs.
- 2) Ability to work with a range of chemicals, reagents, live cultures, etc. Some of which may necessitate use of protective equipment during analysis.